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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/591,442	06/09/2000	Raife F. Smith II	4366-25	3253
48500	7590	04/08/2005	EXAMINER	
SHERIDAN ROSS P.C. 1560 BROADWAY, SUITE 1200 DENVER, CO 80202			FERRIS III, FRED O	
			ART UNIT	PAPER NUMBER
			2128	
DATE MAILED: 04/08/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/591,442	Applicant(s) SMITH, RAIFE F.	
	Examiner Fred Ferris	Art Unit 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☒ Claim(s) 32 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. *A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 17 November 2004 has been entered. Claims 1-33 are currently pending in this application. Claims 1-31 remain rejected by the examiner using new grounds for rejection. New claims 32-33 have been objected to but would be allowable if rewritten in independent form. (see allowable subject matter below)*

Response to Arguments

2. *Applicant's arguments filed 22 February 2005 have been fully considered but are now moot based on new grounds for rejection of the amended claims.*

Regarding applicants response to 102(b) (Lee) and 103(a) (Rueda/Kang): *The examiner withdraws the previous 102/103 rejections in view of applicant's amendment to the claims. (Please see new art rejections below)*

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,583,792 issued to Li et al in view of "Computer Simulation for the Evaluation of Static and Dynamic Priority Schemes in an ATM Multiplexer with Multimedia Traffic", S. Al-Barrak, Int. J. Network Mgmt. 9, 359-369, 1999, in further view of "A Measurement-Based Admission Control Algorithm for Integrated Service Packet Networks", S. Jamin et al, IEEE/ACM Transactions on Networking, Vol. 5, No. 1, Feb. 1997.

Independent claim 1, for example, is drawn to:

method for characterizing ATM network packet inter-arrival times by:

providing:

- number of first portion of ATM transported packets containing voice and video
- number of second portion of ATM packets not containing voice and video
- lognormal number generation of packet inter-arrival times for some of first packets
- normal number generator generating packet inter-arrival times for some of second packets,
- where packet inter-arrival time interval is between temporally adjacent packets

Regarding independent claim 1, 8, 16 and 26: Li teaches characterizing ATM

network packet inter-arrival times (CL3-L21-47, CL49-L51-55) by measuring inter-arrival

time between packets in actual ATM network traffic (Fig. 1) where the packets contain voice (audio), video, and non-voice or video data. (CL36-L39-41, CL40-L11-65, CL42-41-45, Fig. 45) That is, Li specifically teaches that measuring inter-arrival time between packets in actual ATM network traffic for use in a network simulation model (CL34-L56, Fig. 17) is known in the art. (This technique is also disclosed in U.S. Patent 6,046,998 issued to Niehaus et al (CL1-L45-7) as noted below) Li also discloses correlation between packet arrival time intervals for adjacent packets. (CL47-L1-17)

Li does not explicitly teach using a normal number generator to generate packet inter-arrival times.

Al-Barrak teaches a simulation model for generating ATM traffic (pp.360, Fig. 1) including video, voice, and data packets (Table 1) and the generation of traffic inter-arrival time using normal number distribution (pp.361, para: 3-6, pp. 365-368)

It would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to modify the teachings of Li relating to characterizing ATM packets by measuring inter-arrival time between packets in actual ATM network traffic, with the teachings of Al-Barrack relating to the generation of traffic inter-arrival time using normal number distribution, to realize the claimed invention. An obvious motivation exists since, in this case, the Li reference teaches to the Al-Barrack reference, and the Al-Barrack reference teaches to the Li reference. Specifically, both Li and Al-Barrack teach simulation of ATM networks and are used in the same technological arena as noted above. Li teaches to Al-Barrack, because Li discloses that simulated ATM traffic can be better modeled using actual measured ATM traffic (See: Li

Fig. 1). Al-Barrack teaches to Li because Al-Barrack specifically generating simulated traffic using normal number generation. (See: Al-Barrack: pp. 360) Further, the level of skill required by an artisan to realize the claimed limitations of the present invention is clearly established by both references. (See: Li/Al-Barrack, Background) Accordingly, a skilled artisan having access to the teachings of Li and Al-Barrack, would have knowingly modified the teachings of Li with the teachings of Al-Barrack (or visa versa) to realize the claimed elements of the present invention.

Li further does not explicitly teach using a lognormal number generator to generate packet inter-arrival times.

Jamin discloses a network simulator inclusive of an inter-arrival time generator producing a lognormal distribution. (pp. 63, para: 2-4, Fig. 3, pp. 57-65)

It would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to further modify the teachings of Li and Al-Barrack relating to characterizing ATM packets by measuring inter-arrival time between packets in actual ATM network traffic, and the generation of traffic inter-arrival time using normal number distribution, with the teachings of Jamin relating to a lognormal number generator for inter-arrival times, to realize the claimed invention. An obvious motivation exists since, again, the both the Li and Al-Barrack reference teach to the Jamin reference, and the Jamin reference teaches to both the Li and Al-Barrack references. Specifically, Li, Al-Barrack, and Jamin all teach simulation of ATM networks and are used in the same technological arena as noted above. Li and Al-Barrack teach to Jamin, because they disclose simulated ATM traffic modeled using actual measured ATM traffic and normal

number generation as noted above. Jamin teaches to Al-Barrack and Li because Jamin specifically discloses lognormal number generation. (See: Jamin: pp. 63) Further, the level of skill required by an artisan to realize the claimed limitations of the present invention is clearly established by all three references. (See: Li/Al-Barrack/Jamin, Background) Accordingly, a skilled artisan having access to the teachings of Li and Al-Barrack, would have knowingly further modified the teachings of Li and Al-Barrack with the teachings of Jamin (or visa versa) to realize the claimed elements of the present invention and reduce the development time and cost.

*Per dependent claims 2-7, 9-15, 17-25, 27-31: This group of claims is drawn to limitations that include characterizing and modeling (generating) the packet inter-arrival times using log-normal and normal distribution which is disclosed by Jamin and Al-Barrack as previously cited above. Jamin further discloses modeling the **mean and variance** of packet arrival times (See: Jamin, pp62 para: 3), and percentage based packet distribution is disclosed by Li (CL42-L35-65), and would therefore have knowingly been incorporated by a skilled artisan using the reasoning previously cited above.*

Allowable Subject Matter

4. *New claims 32-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the*

limitations of the base claim and any intervening claims. At such time the examiner would favorably consider allowance of claims 1-7 and 26-33.

Conclusion

5. *The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.*

U.S. Patent 6,046,998 issued to Niehaus et al teaches measuring inter-arrival time between packets in actual ATM network traffic for use in a network simulation model

U.S. Patent 6,563,796 issued to Saito teaches modeling and simulation of ATM network packet traffic.

U.S. Patent 6,442,141 issued to Borella et al teaches modeling and simulation of ATM network packet traffic.

"End-to-End Modeling and Simulation of MPEG-2 Transport Streams over ATM Networks with Jitter" W. Zhu, IEEE Transactions Circuits for Video Technology, Vol. 8, No. 1, February 1998 teaches modeling and simulation of ATM network packet traffic.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Ferris whose telephone number is 571-272-3778 and whose normal work hours are 8:30am to 5:00pm Monday to Friday. Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is 571-272-3700. If attempts to reach

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the examiner by telephone are unsuccessful, the examiner's supervisor, Jean Homere

can be reached at 571-272-3780. The Official Fax Number is: (703) 872-9306

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Fred Ferris
4/2/05